

# New England Cottontail

## *Sylvilagus transitionalis*

### Federal Status Candidate

### Description

The New England cottontail (*Sylvilagus transitionalis*) is a medium-to-large-sized cottontail rabbit that may reach 2.2 pounds in weight. Sometimes called the gray rabbit, brush rabbit, wood hare or cooney, it is the only rabbit that is native to areas east of the Hudson River in New York. From the late 1800s until the 1960s, large numbers of eastern cottontail (*S. floridanus*) were introduced to areas within the range of the New England cottontail. Today, with the exception of Maine, the eastern cottontail occupies most of the New England cottontail's range and is much more numerous; in many areas, the eastern cottontail has completely replaced the New England cottontail. External characteristics that distinguish the two species are subtle, making it difficult to tell them apart in the field. The two species are easy to distinguish, however, by examining skull morphology or genetic samples. Although similar in appearance, there is no evidence that the two species are hybridizing.

### Range

Historically, the New England cottontail occurred in seven states and ranged from southeastern New York east of the Hudson River, north through the Champlain Valley, southern Vermont, the southern half of New Hampshire and southern Maine, and south throughout Massachusetts, Connecticut and Rhode Island. Today, the range of the New England cottontail has contracted by 75 percent or more since 1960; the species is no longer found in Vermont. Furthermore, densities of New England cottontail in remaining parts of its range are low.

### Habitat

New England cottontail are considered habitat specialists, insofar as they are dependent upon early-successional habitats, frequently described as thickets. These habitats can be

found in association with abandoned agricultural lands, wetlands, clear cuts of woodlands, coastal shrublands, scrub oak barrens, utility rights-of-way, or other areas where disturbance has stimulated the growth of shrubs and other early-successional plants. Demonstrating a close affinity to microhabitats containing more than 20,000 stem cover units/acre, New England cottontail are reluctant to venture from the cover these dense stands provide.

Researchers have demonstrated that when food was not available within the cover of thickets, New England cottontail were reluctant to forage in the open, and subsequently lost a greater proportion of body mass and succumbed to higher rates of predation than did eastern cottontail in the same enclosure. Thicket habitats and corresponding New England cottontail populations decline rapidly as understory vegetation thins during the processes of forest maturation.

Along with the structural nature of the vegetation within a patch of habitat, the size of the patch must be considered when assessing its value for supporting New England cottontail. In smaller



©AnneSchnell

habitats, rabbits tend to deplete their food resources during the winter; as a result, rabbits on smaller patches (about 5 acres or less) tend to be in poorer condition. These rabbits also experience higher rates of predation than do rabbits on larger patches (12 acres or larger) because they must risk being exposed in areas with less cover if they are to find ample food resources.

### Threats

The primary threat to the New England cottontail is loss of habitat through succession. During the process of forest maturation, stem density declines. Eventually the stand thins to such an extent that the habitat is no longer suitable for New England cottontail. Fragmentation serves to further degrade habitat on a larger scale. Isolation of occupied patches by surrounding areas of unsuitable habitat, coupled with high predation rates, are causing local extirpation of New England cottontail from small patches.

Today, white-tailed deer occur in high densities unprecedented throughout New England. These deer not only consume many of the same foods that rabbits eat, but their presence can also alter the species composition and structure of vegetation communities. In addition, many of the patches where New England cottontail are found are dominated by non-native, invasive shrubs such as multiflora rose (*Rosa multiflora*), honeysuckle (*Lonicera spp.*), Russian olive (*Elaeagnus spp.*) and Asiatic bittersweet (*Celastrus orbiculatus*).



## Conservation Actions

Given the relative ease with which habitat management could provide suitable habitat for the New England cottontail and the species' capacity to reproduce, habitat restoration can provide immediate conservation benefits.

The states of New York, Connecticut, Rhode Island, Massachusetts, New Hampshire and Maine, along with the U.S. Fish and Wildlife Service (Service) and the Natural Resources Conservation Service (NRCS) have established executive and technical committees and are working to develop a conservation strategy that will address the conservation needs of the New England cottontail. This strategy will identify areas where New England cottontail management efforts are likely to be most successful.

Private landowners will play a crucial role in the recovery of the New England cottontail, since many of the known cottontail patches occur on private lands. The Service is working diligently with state governments to develop and implement candidate conservation agreements with assurances (CCAA) to provide incentives for willing private landowners to manage habitat for the species. The CCAA will provide assurances that no additional regulatory burden will be asked of cooperating landowners should the New England cottontail be formally listed as a threatened or endangered species in the future. For more information, view A Landowner's Guide to New England Cottontail Habitat Management at [http://www.edf.org/documents/8828\\_New-England-Cottontail-Guide.pdf](http://www.edf.org/documents/8828_New-England-Cottontail-Guide.pdf).



*New England cottontail*

© Pamela Wells/www.oakleafs.com

### Measures to Avoid

Avoid management practices that eliminate or reduce the amount of suitable habitat.

Avoid alterations in hydrology or other abiotic factors that support stable shrublands.

Avoid the complete removal of large stands of non-native invasive shrub communities.

### Minimizing Adverse Effects

Management of shrublands may result in the temporary loss of New England cottontail habitat. While regenerative cuts are often required to maintain the long-term viability of occupied habitats, this type of management may result in the short-term loss of habitat as thickets redevelop. This sort of impact is particularly severe during the winter dormant period when New England cottontail are most limited by habitat availability. Treatment of occupied patches through integrated vegetation management that selectively removes trees or a select number of invasive species while maintaining >20,000 stem cover units/acre could permit improved management while avoiding adverse impacts.

### Beneficial Practices

Practices that increase the amount of available shrubland communities could benefit the New England cottontail. Activities that result in the creation or maintenance of habitats that are a minimum of 12 acres in size and provide the New England cottontail with the necessary stem densities the species requires (>30 stems/100 square feet) will provide the most benefits.

NRCS Practice Standards that have the most potential for benefiting the species include:

- 472 Access Control
- 386 Field Borders
- 340 Cover Crops
- 666 Forest Stand Improvements
- 595 Pest Management
- 338 Prescribed Burning
- 528 Prescribed Grazing
- 391 Riparian Forest Buffer
- 612 Tree/Shrub Establishment
- 657 Wetland Restoration
- 647 Early Successional Habitat Development/ Management
- 643 Restoration and Management of Declining Habitats
- 645 Upland Wildlife Habitat Management

**FWS contact:**  
Tom Chapman  
Project Leader  
U.S. Fish and Wildlife Service  
70 Commercial Street, Suite 300  
Concord, N.H. 03301  
Office 603/223 2541  
Fax 603/223 0104  
[tom\\_chapman@fws.gov](mailto:tom_chapman@fws.gov)

**NRCS contact:**  
Kristin Ling Smith  
Ecologist (Environmental  
Compliance Spec)  
USDA Natural Resources  
Conservation Service  
East National Technology  
Support Center  
2901 East Lee Street, Suite 2100  
Greensboro, NC 27401

Office 336/370 3362  
Mobile 336/420 9498  
Fax 336/273 8132  
[kristin.smith@gnb.usda.gov](mailto:kristin.smith@gnb.usda.gov)

June 2011

